

What is claimed is:

1. A semiconductor apparatus comprising:
a plastic substrate or a plastic base material each of which has thermal conductivity as a support medium;
an adhesive in contact with the plastic substrate or the plastic base material;
an insulating film in contact with the adhesive; and
a device over the insulating film.
2. An apparatus according to claim 1, wherein the device is a thin-film transistor, a light-emitting device including a light-emitting layer containing an organic compound, a liquid crystal device, a memory device, a pin-junction silicon photoelectric converter, or a silicon resistance element.
3. An apparatus according to claim 1, wherein the adhesive has thermal conductivity.
4. An apparatus according to claim 1, wherein each the plastic substrate or the plastic base material has higher thermal conductivity than that of the adhesive.
5. An apparatus according to claim 1, wherein the plastic substrate or the plastic base material each of which has thermal conductivity is formed of a mixture of low-melting metals,

ceramics, and synthetic resin, the synthetic resin comprising a material selected from the group consisting of polypropylene, polypropylene sulfide, polycarbonate, polyetherimide, polyphenylene sulfide, polyphenylene oxide, polysulfone, and polyphthalamide.

6. An apparatus according to claim 1, wherein the adhesive contains powder or filler comprising a material selected from the group consisting of silver, nickel, aluminum, and aluminum nitride.

7. An apparatus according to claim 1, wherein the semiconductor apparatus is incorporated into one selected from the group consisting of a video camera, a digital camera, a goggle type display, a car navigation, a personal computer, and a portable information terminal.

8. A method for manufacturing a semiconductor apparatus comprising:

forming a release layer including a semiconductor device over a first substrate;

coating an organic resin film that melts with solvent over the release layer;

bonding a second substrate to the organic resin film with a first two-sided tape to sandwich the release layer and the

organic resin film between the first substrate and the second substrate;

bonding a third substrate to the first substrate with a second two-sided tape;

separating the first substrate to which the third substrate is bonded from the release layer by a physical means;

bonding a fourth substrate to the release layer to sandwich the release layer between the second substrate and the fourth substrate;

separating the release layer and the first two-sided tape from the second substrate;

separating the release layer from the first two-sided tape; and

removing the organic resin film with solvent.

9. A method according to claim 8, wherein the solvent is water or alcohol.

10. A method according to claim 8, wherein adhesiveness of the first two-sided tape and the second substrate in the seventh process is stronger than that of the release layer and the fourth substrate.

11. A method for manufacturing a semiconductor apparatus comprising:

forming a release layer including a semiconductor device over a first substrate;

coating an organic resin film that melts with solvent over the release layer;

bonding a second substrate to the organic resin film with a first two-sided tape to sandwich the release layer and the organic resin film between the first substrate and the second substrate;

bonding a third substrate to the first substrate with the second two-sided tape;

separating the first substrate to which the third substrate is bonded from the release layer by a physical means;

bonding a fourth substrate to the release layer to sandwich the release layer between the second substrate and the fourth substrate;

separating the release layer and first two-sided tape from the second substrate;

separating the release layer from the first two-sided tape;

removing the organic resin film with solvent; and

bonding a fifth substrate to the release layer with a second adhesive to sandwich the release layer between the fourth substrate and the fifth substrate.

12. A method according to claim 11, wherein the solvent is

water or alcohol.

13. A method according to claim 11, wherein adhesiveness of the first two-sided tape and the second substrate in the seventh process is stronger than that of the release layer and the fourth substrate.

14. A method according to claim 11, wherein the first substrate is a glass substrate, the second and the third substrates are a quartz substrate or a metal substrate, and the fourth substrate and the fifth substrate are plastic substrates.

15. A method according to claim 11, wherein the first substrate is a glass substrate, the second and the third substrates are a quartz substrate or a metal substrate, and among the fourth and the fifth substrate, one is a plastic substrate being transparent to light and another is a plastic substrate having thermal conductivity.

16. A method according to claim 11, wherein the fourth or the fifth substrate is a plastic substrate on the surface of which a SiN_x film, a SiN_xO_y film, an AlN_x film, or an AlN_xO_y film is formed.

17. A method for manufacturing a semiconductor apparatus comprising:

forming a release layer including a TFT over a first substrate;

coating an organic resin film that melts with solvent over the release layer;

bonding a second substrate to the organic resin film with a first two-sided tape to sandwich the release layer and the organic resin film between the first substrate and the second substrate;

bonding a third substrate to the first substrate with the second two-sided tape;

separating the first substrate to which the third substrate is bonded from the release layer by a physical means;

bonding a fourth substrate to the release layer with a first adhesive to sandwich the release layer between the second substrate and the fourth substrate;

separating the release layer and the first two-sided tape from the second substrate;

separating the release layer from the first two-sided tape;

removing the organic resin film with solvent;

fabricating a light-emitting device including an organic compound over the release layer; and

bonding a fifth substrate for sealing the light-emitting

device to the release layer with a second adhesive to sandwich the release layer between the fourth substrate and the fifth substrate.

18. A method according to claim 17, wherein the solvent is water or alcohol.

19. A method according to claim 17, wherein adhesiveness of the first two-sided tape and the second substrate in the seventh process is stronger than that of the release layer and the fourth substrate.

20. A method according to claim 17, wherein the solvent is water or alcohol.

21. A method according to claim 17, wherein adhesiveness of the first two-sided tape and the second substrate in the seventh process is stronger than that of the release layer and the fourth substrate.

22. A method according to claim 17, wherein the first substrate is a glass substrate, the second and the third substrates are a quartz substrate or a metal substrate, and the fourth substrate and the fifth substrate are plastic substrates.

23. A method according to claim 17, wherein the first substrate is a glass substrate, the second and the third substrates are a quartz substrate or a metal substrate, and among the fourth and the fifth substrate, one is a plastic substrate being transparent to light and another is a plastic substrate having thermal conductivity.

24. A method according to claim 17, wherein the fourth or the fifth substrate is a plastic substrate on the surface of which a SiN_x film, a SiN_xO_y film, an AlN_x film, or an AlN_xO_y film is formed.